

infection, re-infection with a second strain is associated with increased severity of disease. The vehicle for the virus are the leukocytes, rather than the plasma itself. Fresh-frozen plasma and leukocyte depleted transfusions are successful components in decreasing the incidence of CMV infection, presumably because of the membrane disruption and leukocyte death that results from the freezing process. These findings have been corroborated in recent controlled studies that show no new CMV infections in patients receiving leukocyte-reduced platelets and CMV seronegative blood.

The risk of transfusion-related viral infections has been markedly reduced. Heightened vigilance is necessary to guard against new viruses and known viruses that are mutating to avoid detection. Among the newly discovered viruses are spumaviruses and human foamy viruses (HFV). HFVs, for example, have been implicated in neurological disorders in humans. It is important to remember that any virus not routinely transmitted in the blood, such as Hepatitis A or Adenovirus, may be infectious if the blood is drawn from the donor during a viremic state. New viral pathogens are sure to arise; therefore we must continue to develop synthetic blood products and molecular technologies that will identify contaminated blood. With continued surveillance and innovation, the blood supply will remain relatively safe and become even more protected from transfusion-related viral illness.

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## Sphincter Preservation for Ulcerative Colitis

PROCTOCLECTOMY WITH ILEOSTOMY was the standard operation for ulcerative colitis (UC) until about 15 years ago. In most patients, restorative proctocolectomy with ileoanal reservoir has replaced the older procedure. Proctocolectomy with ileostomy is still performed in patients who do not qualify for sphincter preservation because of marked obesity, advanced age, inadequate sphincter function, or cancer in the mid- or distal rectum. The goals are eradication of UC, preservation of sphincter function, and construction of a compliant pouch of appropriate size. A number of technical issues remain controversial.

The sphincter preservation technique has evolved. Originally, extensive resection of the mucosa was

carried out from the anal and abdominal sides. It became apparent that a lengthy denuded rectal muscle tube was unnecessary and harmful, and a shorter mucosal stripping became the norm. In the last few years, many surgeons have performed no mucosectomy at all as part of sphincter preservation. A double stapling technique is being used that allows placement of the anastomosis within 5 mm of the dentate line in nearly all patients. Some are concerned, however, that diseased rectal or transitional mucosa will be left behind by this method.

The J-shaped pouch is favored by most surgeons today, because it is easy to construct and gives good functional results. A temporary diverting ileostomy remains standard for the majority of surgeons. Other surgeons use an ileostomy; they do so, however, only if there is technical difficulty with the pelvic procedure or if there is a leak when the anastomosis is tested at the end of the procedure.

Postoperative infection, incontinence, and pouchitis are the principal complications of sphincter preservation. There is a spectrum of inflammatory changes in ileal pouches (including Kock pouches), and about 25% of patients have sufficient inflammation at some point postoperatively to qualify for the diagnosis of pouchitis. Its cause is unknown, but multiple factors probably contribute to its development. Pouchitis is almost exclusively limited to patients who had the pouch operation for inflammatory bowel disease, and it is most effectively treated with antibiotics. In 4% to 8% of patients, the procedure ultimately fails because of abscess or fistula, pouchitis, Crohn's disease, incontinence, uncontrolled diarrhea, or other problems, and the pouch is ultimately excised.

Functional results are good but not perfect. The average patient has 4 to 5 stools per 24 hours, and half have at least one nocturnal evacuation. Urgency is experienced in about 50% of patients. Minor incontinence is encountered in 35% of patients, and 20% have more serious leakage episodes. Injury to the sphincters from mucosectomy and/or muscle stretch is one cause of these imperfect results; excision of the rectal wall and the sensors that detect rectal fullness is another. Overall, the quality of life of patients who have undergone this treatment is superior to that of patients who have had proctocolectomy and ileostomy. It is important to note that patients who require colectomy for UC because of refractory disease or the risk of cancer are more willing to accept an ileoanal pouch than a permanent ileostomy. Necessary operations are less likely to be delayed or avoided today than in the past.

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## Initial Imaging in the Trauma Patient

RECENT DEVELOPMENTS with respect to initial imaging in trauma patients have centered on focussed abdominal ultrasound (U/S) after blunt trauma, ultrasound/echocardiography for penetrating precordial